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AMSAT NEWS SERVICE
ANS-299

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-299 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 299.01
 >From AMSAT HQ KENSINGTON, MD.
DATE October 26, 2014
To All RADIO AMATEURS
BID: $ANS-299.01

AMSAT Journal Deadline Dates for 2015

AMSAT Journal Editor, JoAnne, K9JKM has released the deadline dates for the 2015 issues of the AMSAT Journal. She noted that, "The AMSAT Journal is continuously searching for news, articles, and photos related to all of the activities of amateur radio in space."

In the past this has included satellite development, satellite history, ground stations, antennas, hardware development, software. We find that many items related to SDR, VHF, UHF, and microwave operating or roving are directly applicable to satellite operations. Educational outreach has been identified as a key area which AMSAT

may use to leverage launch
opportunities. The Journal welomes news, photos, and articles of
ARISS contacts, University research and development, and STEM
programs.

The deadlines for each AMSAT Journal, which is published six times
per year, are:

ISSUE	DEADLINE
January/February 2015	December 20, 2014
March/April	February 20, 2015
May/June	April 20, 2015
July/August	June 20, 2015
September/October	August 20, 2015
November/December	October 20, 2015

Send your input and questions to JoAnne at k9jkm(a)amsat.org

Additional opportunities for publication come from amateur satellite
operators who have the gear and expertise to also receive interesting
transmissions from non-amateur spacecraft and EME. Articles discussing
how this is done are useful to our readers discovering they can do
more with the station they have built.

AMSAT has posted a complete author's guide, "How to Write for the
AMSAT Journal" at:

http://www.amsat.org/?page_id=1709

Our editors will work with you to finalize your article for
publication.

[ANS thanks AMSAT Journal Editor, JoAnne, K9JKM, for the above
information]

4M Lunar Payload Update

On October 25 Ghislain Ruy LX2RG provided this update on the 4M lunar
amateur radio payload.
Signals from 4M are quite weak. This is not due to a loss of power
as telemetry shows normal parameters, but to the attitude of the last
stage that places a deep of the radiation pattern in the direction of
the Earth. I hope that Earth’s movement with respect to the inertial
attitude of the last stage will give better results in the coming days.
The 4M is becoming a real challenge now, and receiving the signals
during flyby will be quite an achievement. A little bit away from the
original goal though, but this risk was known.
One sure result is the radiation measurement that showed what was to
be expected, and the graphs will soon be pubished on the blog.
I hope you will be able to receive during the AMSAT-DL AGM this
weekend, but you will have to put 16+dB [antenna] gain at least.

Radio amateurs are encouraged to receive and report the signals
http://moon.luxspace.lu/receiving-4m/

For tracking information just enter your latitude and longitude at
http://moon.luxspace.lu/tracking/

See the 4M payload Blog at
http://moon.luxspace.lu/blog/

Lunar Ham Radio Payload Launched
http://amsat-uk.org/2014/10/23/lunar-ham-radio-payload-launched/

4M Lunar Payload
http://amsat-uk.org/2014/10/15/4m-lunar-payload-integrated-keps-released/

[ANS thanks AMSAT-UK for the above information]

LituanicaSAT-2 Announced

The LituanicaSAT team has announced on Facebook that the LituanicaSAT-2 CubeSat will be coming soon.

It is hoped the CubeSat will be among 50 satellites launched in the 1st quarter of 2016 on the Ukrainian Cyclone 4 launcher from the Alcantara launch site built by Ukraine and Brazil. The new launch site is located near the Atlantic coast of Brazil just 2.3 degrees south of the equator.

LituanicaSAT-2 will be more complex than the first and will test a new propulsion system which will enable it to change orbit. Currently CubeSats deployed in very low Earth orbit may only last 3 months before burning up in the Earth's atmosphere, the propulsion system could extend that up to 18 months.

Read the 15min.lt article about LituanicaSAT-2 in Google English at
http://tinyurl.com/LituanicaSAT-2-15min

Facebook
https://www.facebook.com/Lituanicasat1

You can watch a presentation by Gintautas Sulskus on the first LituanicaSAT CubeSat at
http://amsat-uk.org/colloquium/colloquium-2014/presentation-videos/

LituanicaSAT-1
http://amsat-uk.org/2014/02/27/lituanicasat-1-cubesat/

QB50 to use Alcantara launch site
http://amsat-uk.org/2014/01/28/qb50-cubesat-launch-contract-signed/

[ANS thanks AMSAT-UK for the above information]

Lunar Ham Radio Payload Launched

The 4M amateur radio payload with a WSJT JT65B 145.980 MHz beacon was launched on Thursday, October 23 at 1759 UT.

The Chang'e-5-T1 mission 4M payload launched on the Chang Zheng CZ-3C/G2 rocket from the LC2 launch complex at the Xichang Satellite Launch Center, Sichuan. The first telemetry from the JT65B beacon was received at 1918 UT in Brazil.

A number of Australian radio amateurs have reported receiving the signals from 4M. Among them was Rob Whitmore VK3MQ at Mount Dandenong, Victoria (QF22qe) who reports that at best, the strength was -13 on the JT65B scale and could also be totally down into the noise with no decodes.

He says "I am using the "Before" TLE as published on the Luxspace website with Gpredict to stear my 6 element yagi and TS2000. With Doppler the frequency is 145.9787 MHz at the time of writing. So far the decodes have included callsign, telemetry and a story of Manfred Fuchs threading through alternate decodes."

Sam Jewell G4DDK @DXING Tweeted "Had around 40 minutes of near 100% copy from the moon probe 4M transmitter from around 1725z [Oct 24]. 9 element Yagi and K3/2m on 2m /JT65B"

The spacecraft will head into a Lunar Transfer Orbit (LTO), before performing a flyby around the Moon. Radio amateurs are encouraged to receive and report the signals. http://moon.luxspace.lu/receiving-4m/

For tracking information just enter your latitude and longitude at http://moon.luxspace.lu/tracking/

See the 4M payload Blog at http://moon.luxspace.lu/blog/

4M Lunar Payload
http://amsat-uk.org/2014/10/15/4m-lunar-payload-integrated-keps-released/

[ANS thanks AMSAT-UK for the above information]

UK Students CubeSat Project

The Coventry Telegraph newspaper reports on students at Warwick University who are building their own satellite WUSAT-2.
Lucy Lynch writes that eight engineering students are designing their own satellite which will be sent into space. In February or March 2015 they and the project director Dr Bill Crofts will don winter woollies and take their creation to a launch site in northern Sweden, near the town of Kiruna.
It is the second student satellite designed at the university. The first one, last year, was sent up from mid Wales in a high altitude weather balloon.
Once the current satellite has been launched the next step is to create a satellite capable of orbiting the Earth.
Dr Crofts said: "This is a stepping stone to a full orbital launch."

Read the full article at
http://www.coventrytelegraph.net/news/coventry-news/meet-warwick-uni-students-who-7971498

Twitter @WUSAT_Team
Facebook
https://www.facebook.com/WarwickUniversitySatellite

UK Students Fly CubeSat to 30km
http://amsat-uk.org/2013/04/10/uk-students-fly-cubesat-to-30km/

[ANS thanks AMSAT-UK for the above information]

GB1SS callsign for International Space Station

The RSGB reported that on October 9, 2014 Ofcom confirmed that the callsign GB1SS will be made available for issue to UK astronauts who wish to operate from the ISS.

In May 1991 the first UK astronaut Helen Sharman GB1MIR talked to radio amateurs around the world from the Mir space station. After a gap of 24 years it looks as though two more UK astronauts may be flying to the International Space Station (ISS) in 2015.

One of the UK radio amateurs that Helen contacted all those years ago was Chris Lorek G4HCL he says: I remember it fondly! I and my three children all chatted with her on 2m using my club station call G4SMC (South Midlands Communications in Chandler's Ford) on her next-but-last Mir pass over the UK before she came down. Steven (10 years old), David (8 years old) and Carolyn (5 years old) all said hello to her, each giving their name and age, with Steven asking whether there was a particular challenge she may have had. Helen replied, knowing it was very young children, that one difficult challenge she'd had was putting her socks on as she floated around the station!

In September 2015 Sarah Brightman hopes to become the 2nd UK astronaut, flying to the ISS on a 10 day mission. She is committed to encouraging young women to pursue careers in Science, Technology, Engineering, and Mathematics (STEM). In 2012 in conjunction with Virgin Galactic, she launched The Brightman STEM Scholarship program. It is not yet clear if she will operate the ISS amateur radio station during her mission.

Tim Peake was selected to train as an astronaut in 2009 and hopes to go to the ISS in November 2015. He holds the USA callsign KG5BVI and has recently been learning to use the Ericsson 144 MHz handheld radio which is installed in the Columbus module of the ISS. On September 18 Tim said "Will be great to chat with schools next year from space using this ham radio on board the ISS."

There are two amateur radio stations on the ISS, one in the Russian Service Module, the other in the ESA Columbus Module. Almost any 144 MHz FM rig will receive signals from the ISS, you can even use a general coverage VHF scanner with an external antenna. As far as the antenna is concerned the simpler the better. A ¼ wave ground plane is a good antenna for the ISS as it has a high angle of radiation. Large 2m colinears may not work quite as well since the radiation pattern is concentrated at the horizon.

You can receive the ISS outdoors using a 2 metre hand-held with its helical antenna but a 1/4 wave whip will give far better results.

In the UK we use narrow 2.5 kHz deviation FM but the ISS transmits using the wider 5 kHz deviation used in much of the world. Most rigs can be switched been wide and narrow deviation filters so select the wider deviation. Hand-held rigs all seem to have a single wide filter fitted as standard.

Voice contacts with astronauts usually take place using “split” frequencies. The astronauts transmit on 145.800 MHz and listen for replies on 145.200 MHz, you just need to activate your rig’s repeater shift. Recently, however, they have also been operating simplex listening on 145.800 MHz.

When astronauts are not on the air they usually leave the packet digi-peater running on 145.825 MHz so why not listen out for it.

ISS status and tracking information
http://issfanclub.com/

http://amsat-uk.org/about/history/first-uk-astronaut-helen-sharman-gb1mir/

Sarah Brightman to fly to ISS
http://amsat-uk.org/2014/09/04/sarah-brightman-to-start-space-flight-training-in-january/

[ANS thanks AMSAT-UK for the above information]

International African CubeSat WorkShop November 3-4

The French South African Institute of Technology at Cape Peninsula University of Technology is proud to host the 2nd International African CubeSat Workshop 2014.

The first ever International African CubeSat Workshop was hosted by F'SATI at Cape Peninsula University of Technology from 30 September to 2 October 2011. This workshop was a resounding success and followed by the 62nd International Astronautical Congress, held for the first time ever in Africa.

The Workshop will take place on 3 and 4 November 2014 in the ABC Building Lecture Theatre on the Bellville Campus of Cape Peninsula University of Technology. This year, the first Workshop day coincides with the French Day hosted by F'SATI and CampusFrance South Africa.

Registration to attend the 2nd International African CubeSat Workshop now open. Registrations close on 27 October 2014.

http://www.sarl.org.za/
http://fsati9.wix.com/cubesat-workshop

[ANS thanks the South African Radio League and the French South African Institute of Technology for the above information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

* Sunday, 25 October 2014 – Hamfest Chattanooga 2014 in Chattanooga TN (Alhambra Center, near TN-320 and I-75 exit 3)
* Saturday, 8 November 2014 – Tucson Hamfest 2014 in Marana AZ (along I-10 west frontage road, east of exit 236)
* Saturday, 6 December 2014 – Superstition Superfest 2014 in Mesa AZ (Mesa Community College, Dobson Road between Southern Avenue & US-60 exit 177)
* Saturday, 10 January 2015 – Thunderbird Hamfest in Phoenix AZ (43rd Avenue, between Greenway and Bell Roads)
* Friday and Saturday, 20-21 February 2015 – Yuma Hamfest in Yuma AZ (Yuma County Fairgrounds, 32nd Street between Pacific Avenue & Avenue 3E, south of I-8 exit 3)

[ANS thanks AMSAT-NA for the above information]

ARISS News

Upcoming Contacts

* Bisei Elementary School, Ibara, Japan, direct via 8N4STAR Contact is a go for: Mon 2014-10-27 08:52:46 UTC 41 deg

* From 2014-11-10 to 2014-12-07, there will be no US Operational Segment (USOS) hams on board ISS. So any schools contacts during this period will be conducted by the ARISS Russia team.

Latest News

* A telebridge contact with members of The Explorers Club, New York City, New York, USA via IK1SLD was sucessful on Sat 2014-10-25.

The ARISS team reported:
"Explorers Club Contact went well. 9 questions answered with a repeat on the first question. Apollo astronauts Charles Duke (Apollo 16 moonwalker) and Walt Cunningham (Apollo 7 LM pilot) were among those who asked questions. 2 ticketholders for Virgin Galactic SpaceShip 2 also were among those who asked questions.

Our thanks to Claudio IK1SLD for an outstanding job as the telebridge station for today."

The Explorers Club is an international multidisciplinary professional society dedicated to the advancement of field research and the ideal that it is vital to preserve the instinct to explore. Founded in New York City in 1904, The Explorers Club promotes the scientific exploration of land, sea, air, and space by supporting research and education in the physical, natural and biological

sciences. The Club's members have been responsible for an illustrious series of famous firsts: First to the North Pole, first to the South Pole, first to the summit of Mount Everest, first to the deepest point in the ocean, first to the surface of the moon—all accomplished by our members.

The Explorers Club actively encourages public interest in exploration and the sciences through its public lectures program, publications, travel program, and other events. The Club also maintains Research Collections, including a library and map room, to preserve the history of the Club and to assist those interested and engaged in exploration and scientific research. The Club houses a radio room and amateur radio station K2XP.

On Oct. 25, 2014 The Explorers Club will host a special all-day event focusing on the history of human spaceflight at Explorers Club headquarters in New York. This year's venue will feature astronauts and space-flight participants from several missions using the Cold War as a backdrop – Apollo, Soyuz, Space Shuttle and SpaceShipOne. The day will include a mix of straight-up talks, "Exploring Legends" interviews by Jim Clash, and panel discussions. Among confirmed story-tellers so far are Gen. Charles Duke, Apollo 16 moonwalker (and CapCom for the Apollo 11 lunarlanding); Richard Garriott and Greg Olsen, both of whom flew aboard Soyuz to ISS; four-time Shuttle/Soyuz veteran Leroy Chiao; Walter Cunningham, Apollo 7 Lunar Module pilot; Catherine "Cady" Coleman, who performed a live flute duet with Ian Anderson aboard ISS (and who will play at the Club's event); and Brian Binnie, who piloted SpaceShipOne to win the Ansari X Prize in 2004. The ARISS contact and interview will be an integral segment of this human-exploration experience and public discovery.

[ANS thanks ARISS, Keith, W5IU and Charlie, AJ9N for the above information]

Satellite Shorts From All Over

* Theoretical Microwave Article Archive Available for Download

Microwave Review is a publication of national Society for Microwave Technique, Technologies and Systems and Serbia and Montenegro IEEE MTT-S Chapter. Free on-line access to all published articles between 1994-2013 can be found at:
http://www.mtt-serbia.org.rs/microwave_review/home.htm

[ANS thanks Owen Roberts via the Microwave listserv for the above information]

* Beta testers wanted for Heavens-Above Android app

Hi all,

We are looking for beta testers for our new Heavens-Above Android app.
A few features of the app:
- Spacecraft visibility predictions based on current GPS location
- Visibility calculations are done on the device, so you only need to go
online once every few days to update the list of orbital elements

- Works on phones and tablets
- Live Sky Chart, which shows all currently visible satellites
- Prediction of Iridium flares

There will be two versions of the app, one will be free of charge and will include advertisements, the other will be a paid for version without ads. The price is still to be determined.

To participate, just send me an email from your google mail account (or let me know the name of your Google account) and I will add you to the Heavens-Above testers community. You will then receive an invitation with further instructions on how to download and install the test version of the app. The first official release will be available to all for download from the Google play web site.

We have also set up a forum on the Heavens-Above site;
http://www.heavens-above.com/forum/default.aspx?g=forum&c=5

Chris Peat
chris.peat(a)heavens-above.com

[ANS thanks Seesat-l mailing list for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org